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Establishment of Historical Bridges in Bengal: Alignment Exploration with Contextual Geography

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Abstract - After the Muslim conquest, the Bengal Sultanate period was from the 1200s to the 1526s. During this interval, many aesthetic and spectacular establishments developed in this Bengal. Muslims built various installations in this Bengal following the process of urbanization. These installations include mosques, mausoleums, khankahs, darbar sharif, dargahs, eidgah ground, arcade gates, fortified walls, defensive walls, ghats, plazas, railings and bridges etc. From the 1526s to the 1858s, this was the Mughal Sultanate era of Bengal. Holding the hands of the Mughals, a lot of versatile installations were built in this Bengal. It can be seen that most of the deployment, decoration, ornamentation and modification of the Sultanate period took place in this Era. The Mughals played a leading role in the construction of castles, defense walls, fortified walls, dungeons, mosques, historic buildings, bridges and ghats in this Bengal. Behind the construction of the historical bridge, the Mughals have to mention the trench, dighi or canals dug in the hands of the Mughals such as the excavations on the side of Old Fort in Delhi, India as a prime example. Similarly, Kellar Pool Canal and Tribeni Canal were excavated at Khijirpur fort (now, Hajiganj Fort) and Subarnakandi Fort (now, Sonakanda Fort) at Narayanganj (Dhaka) in Bangladesh. Each memory of a entangled canal or trenches are involved with the story of bridge. We also call it "pool". "Kellar Pool" is located in Keller Pool Canal and "Tribeni Pool" is located in Tribeni Canal. These bridges have survived to many pastures till today. These bridge structures were immersed in the terrible eclipse of the day. Their condition is fragile and jubilant as they continue to rhyme with age. Again, many bridges have not been able to keep pace with the era of architecture. Today they do not exist and cannot be understood. Such as: Khawaja Amber Bridge, Tati Bazar Bridge, etc. Examples of people brutally breaking old bridges and setting up new bridges are the Tribeni Bridge, the Kella Bridge etc. The historic Taltala Bridge is a victim of the horrors and horrific days of war. That ended during World War II. Those bridges who have survived don't know how many days they can survive. And the bridges that still survive, who knows what will happen to them in the next 100 years? These historic bridge structures are losing their uniqueness and individuality due to lack of proper preservation and conservation. This paper depicts the documentation, photography and restoration of these old and historic bridges and preserves its former glory. The article will come up from beginning to end. This paper also discusses various historical issues, solutions and key issues for preserving different bridges.

Keywords: Alignment Exploration, Documentation, Conservation, Damage Mapping, Historical Bridges, Reflected Photography.

I. INTRODUCTION

Since ancient times, Bengal has been an incorporated and ruled region of Greater India. We can see from the continuity of observing the history of Bengal -

- From 269 BC to 1200 AD = Buddhist era
- From 269 BC to 1200 AD = Hindu era
- 1200 AD to 1526 AD = Sultanate era
- 1526 to 1858 AD = Mughal or Nawabi era
- From 1858 to 1947 AD = British colonial period
- From 1947 to 1971: Bengal Partition, Movement of Bengal Freedom, Movement of Bengal Languages, Liberation War, the previous and next chapters of the War of Liberation .

Each time the tide has passed through the tropics. At no time did the path-talk go away. The cavemen have done all this to dig wells and irrigation systems, build dams and build bridges to enroll themselves along the path as the travelers made their way.

Somewhere along the way, look for very small bridges that may not have occupied such a place on the map of the time. Again, they can understand the appearance of the fort or the fort adjacent to the bridge. However, the most interesting means of the era are road gateway renovation and construction.

For example: "Grand Trunk Road" is the oldest road in Asia. The road stretches from Sonargaon in Narayanganj to Howrah in West Bengal, through Peshawar in Pakistan to Kabul in Afghanistan. Another name for this road is "Road-A-Azam".

Sher Shah Suri, the founder of the Suri Empire (1486AD -1545 AD) built this "Grand Trunk Road".

1.1 Ancient bridges according to Rennell's map

James Rennell (1742-1830 AD), the inventor of the ancient map of Bengal. He is a British geographer, geographer, historian and naval engineer. Rennell is said to be the father of oceanography. He was entrusted with the British East India Company to carry out precise surveys, documentaries and maps on the Bengal river system. James Rennell undertook this task for 10 consecutive years, that is, from 1763 to 1773 he prepared a map of Bengal under the British government.

Rennell's map shows the Bengali installation. This ancient map contains information on the construction of many bridges, such as the search for timeless forts. According to Rennell's map, the identity and location of the bridge are known.

Major headings are to be column centered in a bold font without underline. They need be numbered. "2. Headings and Footnotes" at the top of this paragraph is a major heading.

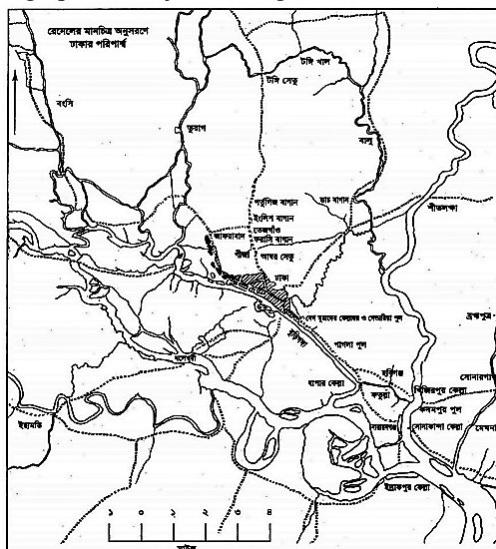


Figure 1: Rennell's Map. *Memoir of a map of Hindoostan*

1.2 The name of the ancient bridge site according to Rennell's map

- Tongi Bridge
- Khwaja Amber Bridge
- Pagla Bridge
- Gandaria Bridge
- Karimpur Bridge

II. ANCIENT BRIDGES BASED ON REAL OBSERVATIONS

The real time has come a long way. The names of many places have changed so it is difficult to match the names according to the map.

E.g

In Rennell's map, the Kadampur Bridge has a name but in reality it does not match its location.

According to the map, this Kadampur Bridge is located at a place between Sonakanda Fort and Khijirpur Fort. In fact, the name Kadampur does not exist. The space between Sonakanda and Khijirpur (current: hajiganj) indicates as much ancient Kratavu (current: nabiganj) as possible. Another Mughal period bridge or bridge can be seen in the Ispahani area near Nabiganj. Another name is "Chapatoli Brick Bridge". According to the locals, the place was never named Kadampur. Nor does this name exist in ancient history. Again, Renault's map does not have the name of Chapatoli's brick Bridge. I have been accustomed to seeing the existence of "Tribeni Khal" and "Tribeni Bridge"

in places including Sonakanda Fort since childhood. Although the Tribune bridge has been demolished at present. Again, the newly renovated and transformed structure of the "fort Bridge" exists at the site of Khizirpur fort (present Hajiganj fort). Now the question is -

Question: 01. Kadampur Bridge is the brick Bridge of Chapatali? Perhaps, the previous name of Chapatali village was Kadampur village, although it has no basis.

Question: 02. Kadampur Bridge is located in a village called Kadampur, although the village of Kadampur was not found.

Question: 03. Kadampur Bridge is the Tribeni Bridge Or the castle Bridge? But their names have been known by their own names from the beginning.

The names of many bridges are not mentioned in this map, but their evidence is consistent with history. Examples: Chapatali Brick Bridge, Keller Bridge, Tribeni Bridge.

Although the castle Bridge, the Tribeni Bridge has been wiped out. The old bridge is being demolished and a new road bridge is being built.

2.1 Adequate Research, Historical Data Verification - A List of Historic Bridges Today:

- Panam Bridge, adjacent to lost Panam City
- Dalalpur Bridge
- Panama City Bridge
- Pithwali Bridge
- Tribeni Pool, adjacent to Sonakanda Fort
- Kellar Pool, adjacent to Khizirpur fort
- Trimohoni Pool, adjacent to Amulia Bazar
- Kadampur Pool
- Brick pool of Chapatali, adjacent to Katrabhu
- Pagla Pool adjacent to Beg Murad Fort
- Khanja Amber Pool
- Tatibazar Pool
- Tongi Pool, adjacent to Tongi-Abdullahpur Road
- Adjacent to Pulghata Pool, Mirkadim
- Taltala pool
- Bariura Ancient Pool, Hatirpul, Brahmanbaria

2.2 Material of the ancient "bridge" or, "Bridge"

During the Sultanate, Mughal and colonial periods, these bridges were mainly made of brick. Especially terracotta bricks and lime mortar bricks were used. Most of the masons who built these installations were brought from Agra, Delhi, Jharkhand and Rajmahal.

This is not the only apparent use of brick in the construction of bridges or bridges. Rather, these bricks were the main architectural style of construction of ancient path ghats, roads, buildings and mosques.

As -

- The pathghats, terraces and VTs found in the excavations of "Pundru Vardhan" or "Pundru Nagar", the capital of ancient Bengal, are all made of brick.
- Again, the path, ghats, walls found in the excavation of the 3000 year old installation "Wari-Bateshwar" are all made of red brick.
- The traditional ancient city of "Panam City" is built of brick.



Figure 2: Bricks Found on Wari Botesshor during excavation work

2.3 The supply of these ancient bricks

The use of brick kiln in Bengal came much later.

In the beginning, brick-and-mortar didn't exist, so where did this brick come from?

The bricks of these ancient installations were made of clay. How could there be so much soil supply?

Examples of this are - to make adequate arrangement of soil by digging canals, ponds or drains, and to facilitate irrigation by leaching water. For example - the religious ruler Khan Jahan Ali built the mosque town "Khalifatabad" in Bengal. He built numerous mosques in the city. He dug a pond or a dighi near each mosque. Bricks were extracted and processed and used in these installations.



Figure 3: Water body adjacent to the historic port Shahi Mosque.

Likewise, in the Mughal period, there was a reservoir adjacent to each of these big castles or forts. The walls from these reservoirs were made of clay wall. Thus, there is no alternative to bricks in the construction of ancient Bengal installations.

Examples are: "Tribeni Canal" at "Sonakanda Fort", "Kolla Bridge Canal" at "Hajiganj Fort", "Tongi Canal" etc. at the place along with "Tongi Bridge".

Moreover, this brick was the main tool of the architectural construction of the Sultanate period. Although the use of plaster or lining is maximum during the Mughal period. We see two types of use in the construction of bridges or bridges in ancient Bengal. The use of brick was in the initial stage and then the lining of the Philistines.

2.4 Structural features and structure ideas of the ancient bridge:

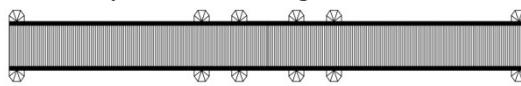


Figure 4: Mughal Bridge Plan (E.g. Mirkadim Bridge)

- The "plan" or "design" of each bridge is linear
- The "plan" or, "design" of each bridge is elongated, elongated
- The "width" of each bridge is relatively small, the length is much longer
- At the midpoint of each bridge, the center is a little higher
- The slope of the bridge is downhill
- The existence of arch pillars can be seen in the "plan" or "design" of the bridge



Figure 5: Elevation of Mughal Bridge (E.g. Mirkadim Bridge)

- Most bridges are tri-arched. Again, some bridges are distinguished by a single arch.
- In the three-arched bridge, the intermediate arch is of relatively larger shape. The arches are of the largest size on a single arched bridge. Waterways pass through this arch, namely - boats, dinghies, boats. The adjoining arches are two dark sari alleys. With which the highest fish can go from top to bottom. In some cases the shape of the surrounding arch is relatively large but much smaller than the middle arch.
- The thickness and thickness of the bridge wall with each arch is very high. This thick wall has emerged, especially since the column structure was not so well used at that time.

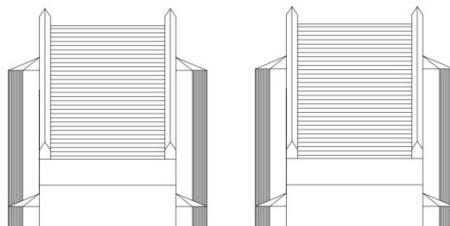


Figure 6: Elevations of Mughal Bridge (E.g. Mirkadim Bridge)

- Starting from the end of the bridge or Bridge is made entirely of brick.
- According to the geometric configuration of the bridge or bridge, the curves are so curved that in many cases heavy vehicles make it difficult to ride over. In that case, there is no alternative but to cross the bridge on foot or by horse-drawn carriage. And at this point there is a huge difference between the vehicles of ancient times and the present time.
- Bridges or bridges belong to all contemporary tribes. None of them seem bigger or smaller. Because of the inability to take very long straight paths, the length of the bridge is very short.
- The center of the surface of the bridge gradually descends from the center to the side of the needle.



Figure 7: 3D Visualization of Mughal Bridge (E.g. Mirkadim Bridge)

- The use of railings on both sides of the bridge, its height is very low. According to the height, an angle is formed on the top of the railing which looks like a triangle.
- Octagonal towers or minarets can be seen on some bridges whose height does not reach the surface.



Figure 8: 3D Visualization of Mughal Bridge (E.g. Mirkadim Bridge)

- Sometimes additional arches are seen in addition to the main arch. Such as: Pagla bridge.
- In some cases, minarets can be seen around the bridge. The number of them is more than one. Such as: Pagla bridge. Four minarets are seen in every corner of the mad bridge whose shape is octagonal.
- Sometimes Tudor matches the identity of Gothic architecture.
- Each bridge witnesses one history, one canal or canal adjacent to the bridge and one history each. In many places, bridges or castles are covered with bridges.



Figure 9: 3D Visualization of Mughal Bridge (E.g. Mirkadim Bridge)

2.5 Ancient Bengali bridges installations located at Sonargaon

Sonargaon is the capital of ancient Bengal (1281 to 1610) which is an upazila of Narayanganj. This fairytale kingdom is located 27 km south-east of Dhaka. Professor Swarupchandra Roy called this place "Subarnagram" in his book. This ancient "Subarnagram" is the empire of Isha Khan, known as Bhuiyan in Bengal. And the city of Panama is an abandoned city belonging to this ancient Sonargaon. Following the process of urbanization during the Mughal rule, various structures have been built in these places.

Among these historic buildings of Sonargaon are - ancient buildings, crotch houses, bridges, ghats, mosques, parks, monasteries, blue kothis, kuthi houses, darbar halls, rang mahal, mint and madrasa. This installation is one of the few aesthetic bridges and bridges built by the Mughals in Bengal.

After the Mughal conquest of Sonargaon in 1611 AD, many highways and bridges were built around the city of Panama to maintain contact with the ancient Sonargaon.

What remains of them still amazes tourists and archaeologists. Here is the bridge between them -

- Panam Bridge
- Dalalpur Bridge
- Panama City Bridge
- Pithwali Bridge

2.5.1 Panam Bridge

Naming of Panam Bridge

An important sign of the Mughal period is the "Panam Bridge". The other name of this bridge is "Companyiganj Ka Bridge" or "Companyiganj Bridge", but locals know the bridge as Pankhiraj Bridge.

Location of Panam Bridge:

This historic Panam Bridge is located at "Panam Nagari" in Sonargaon upazila of Narayanganj district. The Panam Bridge is named after the canal that has been built on it since ancient times, "Pankhiraj Khal". This ancient canal is located at the junction of the historic "Panama City" and the "Vaidyar Bazaar".



Figure 10: (a) Panam Bridge, (b) Panam Bridge with new road

History of the Panama Bridge

According to historians, this historic Mughal structure was built around the seventeenth century. Although there is no authentic inscription on the actual date of construction of the bridge, considering the architectural style, historians have agreed that it was built during the Mughal period, i.e. in the seventeenth century. At present this installation is a preserved antiquity of the Department of Archeology.

Structural features of Panam Bridge

The brick bridge of Panama looks exactly like the "Mir Kadim Bridge" in Kasba. Gradually sloping down from the center of the bridge surface the bridge has a great thickness. The perimeter of this tri-arched bridge is much less.

The length is 173 feet and the width is 14 feet. The arch between the bridges, the arches are larger in size than the two. The height of the middle arch is approx. The surrounding arch is 4.24 m high. The pillars in the middle of the bridge are 2.21 meters thick. Under the bridge, water is still flowing and boating is available. During the rainy season, the water under the bridge is filled with water. In the dry season, the lower part of the bridge becomes dry and almost dead.

Current condition and use of this bridge

The Panam Bridge is in a state of disrepair.

- This bridge has no use. Due to the construction of the new highway, the vehicles are transported on that road. Vehicles are completely closed, people are moving and temporary.
- Cracks have been spotted somewhere on the bridge.
- Green grass is born on the broken and cracked part of the bridge. The condition of the bridge is now grazing land as green grass has grown.
- Local people use the walls of the bridge to dry wet cloths and nets.
- The bottom of the bridge is a pile of dirt.
- The condition of Pankhiraj canal is fragile; the water of the canal has become polluted. Somewhere in the canal water connection line has also been obstructed. A canal full of water hyacinth.
- The bridge is being used as a garage for rickshaws and vans
- The two sides of the bridge are full of piles of dirt.
- However, 2-3 types of Gui snakes and woodpeckers can be seen on this bridge. Visitors and tourists visiting Panam City are never wrong to visit this bridge.

It is not difficult to accept that the Panam Bridge is presently located in Bangladesh and is stronger, stronger and more mature than all Mughal bridges.

2.5.2 Dalalpur Bridge

Professor Cunningham mentions in one of his descriptions of the "Dalalpur Bridge" -

Cunningham's account (1879-1880) mentions two brick entrance pillars on the inside of the bridge. It consists of a black stone adorned with a floral design carved in step. The bridge is believed to have been built during the Mughal period due to its architectural style.

Naming of Dalalpur Bridge

Another impressive Mughal erection on the Pankhiraj canal is the "Dalalpur Bridge" or "Daulatpur Bridge". This bridge is also known as Daulatpur Bridge to the locals.

Location of Dalalpur Bridge

The bridge is located on the Pankhiraj Canal, northeast of Panam City. This bridge starts from Aminpur and extends to Dalalpur Company factory. It is said that this bridge is the second connecting bridge of the Pankhiraj canal.

Structural features of Dalalpur Bridge

The Dalalpur Bridge is built of brick. It is about five feet in diameter. However, there is no existence of black basalt stone in it. This ancient bridge has three arches. The middle arch is relatively larger than the two adjacent arches. Below is a great water supply system. Relatively wide and elevated to facilitate boat navigation.

2.5.3 Panam Nagar Bridge

Location of "Panam Nagar Bridge"

The Panam Nagar Bridge is located on the western side of the historic Panam City. Another Mughal establishment Dalalpur Bridge is a few yards away from this bridge. The recently constructed paved road is located to the east of this bridge.

Panam Nagar Bridge history:

According to architecture, this bridge during the Mughal period was constructed at the time of construction of the Panam Bridge and Dalalpur Bridge.

Structural features of "Panam Nagar Bridge"

The Panam Nagar Bridge is situated on a small valley. So the bridge also has a narrow structure. Another important installation of the Mughal period - like the Pagla Bridge, had two towers on either side of the bridge. The gate was set up at each tower. Currently this tower is not visible. This tower was lost many years ago in the whirl Bridge of time. This small bridge has only one arch so that there are no small arches on either side like the other bridges. One-third of the bridge is made of brick. At the bottom of the bridge, however, is a large pillar of black basalt stone. Above this pillar installation is a brick masonry and lining. The length of the Panam Nagar Bridge is 21.95 meters, the width is 4.72 meters. There is still water in the archway.

Current status of Panam Nagar Bridge

The Panama Bridge no longer survives. Today is lost in the evolution of time.

2.5.4 Pithawali Bridge

Location of "Pithawali Bridge

Pithawali Bridge is located in front of the main gate of Sonargaon Kazi Fazlul Hoque Women's College. From here, Sonargaon Folk Art Museum and Panam Nagar are located nearby.

Naming of Pithwali Bridge

The condition of the road on the two sides is such that the bridge currently looks like a turtle's back. This Bridge is called "Pithawali's Bridge" because it looks like a tortoise's back.



Figure 11: (a) Present Views of Pithawali Bridge, (b) Pithawali Bridge with road

History of Pithawali Bridge

According to historians, there is disagreement about the date and time of construction of this bridge. Many people think that the construction of the bridge was started during the reign of Emperor Sher Shah, which was built at the end of Isha Khan's reign.

Structural structure of Pithwali's Bridge

Pithawali Bridge has only one arch. It is clear from the part of the bridge adjacent to the road at this time that the head point of the panel and the arch can be verified, that the bridge does not have two small arches. The length of the panel is 14 feet 8 inches. Its depth is 2 inches.

The length of Pithawali Bridge is about 76 feet. The center of the surface of the bridge gradually descends from the center to the side of the needle. However, the slope of this bridge is not as high as the other bridges. The width of the bridge is 14 feet and 2 inches. The walls on the two sides of the bridge are 2 feet thick.

Current status of Pithwali Bridge

Currently, the condition of the Bridge is very fragile. The time to get lost in the womb of tomorrow is imminent.



Figure 12: (a) Broken part of Pithwali Bridge, (b) Bricks of Pithwali Bridge

2.5.5 Tribeni Bridge, Adjacent to Sonakanda Fort

The word "Tribeni" is derived from the words "Trivritta" and "Triveda". Bengali "Tribeni" means "confluence or estuary of three rivers".

The Tribeni Bridge is located at Sonakanda (ancient Subarna Kandi) village under Bandar Police Station in Narayanganj District.

The famous "Tarikh-e-Dhaka" book mentions about the Triveni Canal and the bridge.



Figure 13: Snap from the book Tarikh e Dhaka

Was there really the Tribeni canal and Bridge?

The ancient "Subarnakandi" (the traveler Ibn Battuta mentions in his book that the present name "Sonakanda" village extends westwards through the Shitalakshya river to the historical "Tribeni canal" of the Mughal period and extends to "Subarnagram" or "Sonargaon" this bridge.

Historian Durgadas Lahiri mentions this bridge on page 256 of his book "History of the World - Volume IV".

[The glory of ancient Bengal, Accepts 2 & s. Sitaram was uprooted by the tactics of Natore's army led by Dayaram Roy. In this war, victory and defeat, the heroism of the Bengalis was proclaimed in both places. Many details of this kind of heroism of Bengalis can be found by searching in the previous history of Bengalis. Who will I declare whose identity? The Raj Chadra of Sipore, belonging to Vikrampur, the Kandapannarayan, the successor of the Danaujamadh or Danujmardan of Chandradvip, Mukundaram Rai of Fatehabad and Bhushana-Parganas, the Lakshmanikya of Bhulur. All of them were called Bhowmik and were known as heroes. Raja Chadra was able to extend his authority from the capital of Bikrampur to Sandwip with his own arms. Signs of that effect of the passage — the passage,. Avai also exists in the Devalayas of the given Brahmautara, Rajabari monastery etc. and Kandapannarayan Shiva-temple at various places. The fame of Kandapannarayan etc. dressed at home and abroad. Ralph Quiche, who was born in the capital of Kandapanarayanan, in the year 8 CE, witnessed the issue of Rthab's reception. Raj Kandapanarayan had many sail vessels. Azzi also saw a large cannon of brass used in his capital. The name of Kandapannarayan and 3 are inscribed in the cannon. Pratapaditya's rival Ramchandra Roy is the son of this Kandapanarayana. The village of Charmukundia on the banks of the Padma near Faridpur still reminds us of the influence of Mukundaraya. Mukundarai made a decision against the Mughal army headed by Muradarath. Murad Khaw - Mukund was killed at the hands of Roy. This heroism of Mukundaraya was manifested in 1586 AD. The book 'Akbarnama' is written on the heroism of Mukundara. Lakshmanikarya was the land holder of Bhulua-Parganas in Noakhali district. He was able to dominate you till the east bank of the river Meghna. To the north of present-day Narayanganj, within a croquet interval, a village called Khizirpur is visited. There was a playground for Palpitha Esha Khar. Eventually he established his capital at Swavarnagram. His forts were built in different centers. In Rangamati, Assam, on the other side of Narayanganj, in Tribeni, and in Agarsindhu, in the sign of Brahmaputra, the identity of the fort of Rattah is also seen. Ralph Fitch visited Subarnagram in 1583 and noticed the influence of Isha Khar. The narrative reveals, - 'At one time the predominance of Isha Khar was widespread in the whole of East

Bengal -. Isa was very honored by the Christians. The Mughal emperor's army was sent against Isha Khar for not acknowledging the supremacy of the king of Delhi. In 1575, the Mughal general Sahabakhi invaded the kingdom of Isha Khar. In the war, Isha Khan displayed special valor. Be defeated in it.]

This ancient Tribeni canal has become a tributary of the Shitalakshya and Buriganga rivers in the west - the tributary canals, beels, rivers and canals.

Once upon a time, the reputation of Sodagadar, but today the reputation of Sri-Hin. The existence of the Tribeni canal from the Shitalakshya River adjacent to Bandar Thana to the Dhaleshwari River at Mirkundi Bibijora is no longer found.

The Tribeni Bridge adjacent to the Tribeni Canal is not there today. Attempts are being made to demolish the recently dilapidated bridge and build a new one.

2.5.6 Kellar Pool Bridge, Adjacent to Khizirpur fort

The ancient "Khizirpur fort" (now known as Hajiganj fort) is on the west bank of the Shitalakshya River in Narayanganj district. The fort is located a short distance from the fort. Later the Mughals built a bridge here. This bridge is built over the "Fortress Canal", hence the name "Fortress Bridge". From this bridge, Narayanganj to Chittagong Road and Demra are the means.

Currently the newly built Bridge can be seen. However, according to many local people, there was a bridge built during the Mughal period.

More information on this bridge is nowhere to be found.

2.5.7 Tri-Mohanee Bridge

Many believe that Isha Khan built the ancient bridge at Tri-Mohani. However, there are no documents or documents related to it.

2.5.8 Kadampur Bridge

Find this ancient "Kadampur Bridge" on Rennell's map. The Kadampul Bridge is located between the ancient Subarnakandi Fort (Sonakanda Fort) and Khizirpur Fort (Hajiganj Fort). Supposedly, its location is in the ancient cemetery. In fact, there is no trace of this Bridge.

2.5.9 Chapatali Bridge, Adjacent to the Ancient Katravu



Figure 14: Chapatali Brick Bridge

Location of Chapatali Brick Bridge

This brick bridge is located in Chapatali village adjacent to Ispahani Bazar in Narayanganj district. Locals call this bridge the Gaibi Bridge.

Chapatali Brick Bridge Material

The brick Bridge of Chapatali is made of bricks. Variations can be seen in the brick pattern within this Bridge. Two patterns can be seen in this pattern, namely: perpendicular to the brick, perpendicular to the brick. There is Row in brick pattern - four. From left row No. 2 is much smaller; row 3 and row 8 are the largest.

The shape of the brick is quite vertical and

Verities in the brick Bridge of Chapatali. The length of the brick is 7 inches and the width is 2 inches.



Figure 15: (a) Chapatali Brick Bridge, (b) Frontal view of Chapatali Bridge

Architectural Features of Chapatali Brick Bridge

Length of brick Bridge with slope 108 feet, width = about 18 feet, height = about 24 feet (from water)

The octagonal tower of Chapatali brick Bridge-

- There are 4 octagonal towers on 4 sides of the brick Bridge.
- The octagonal tower has an arm's length, 3 feet 5 inches
- Full length of octagonal tower, 3 feet
- Full width of octagonal tower, 3 feet
- Height of octagonal tower, about 5 feet (from the ground)
- Landing from octagonal towers, 3 feet approx.

Railing of Chapatali Brick Bridge-

Fractures can be seen in the railings of the brick Bridge. The thickness of this railing is 1 foot 7.8 inches (approx.)

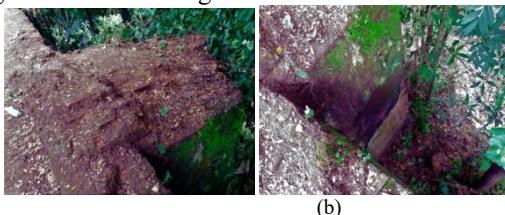


Figure 16: (a) Damages of Chapatali Brick Bridge, (b) Pillar of Chapatali Bridge

2.5.10 Pagla Bridge, Adjacent to the fort of Beg Murad

Examples of the many aesthetic bridges spoken of during the Mughal period are "Pagla Bridge" or "Pagla Bridge". Many historians have told stories about this bridge.

Location of Pagla Bridge::

The wreckage of the bridge still survives in the Pagla area of Narayanganj, 4.5 km from Dhaka.

History of Pagla Bridge

During his stay, Mir Jumla, Subadar of Bengal, built several Mughal establishments in Dhaka and its surrounding areas, especially in Narayanganj city. These include the construction of ancient roads, moats, bridges and connecting roads.

It is thought that during the subah of Bengal, "Mir Jumla" built several forts in this Bengal from the 15th century to the 16th century. These forts included Subarnakandi fort (now Sonakanda fort), Khizirpur fort (present Hajiganj fort), Beg Murad fort etc. He dug a trench and built a bridge in each area including the fort. For example, he built Tribeni canal and Tribeni Bridge near Sonakanda fort, Kella Bridge and Kella bridge near Hajiganj fort, Pagla River and Pagla bridge near Beg-Murad fort. The construction of this citadel was completed in 1660 AD.



Figure 17: Pagla Bridge captured in 1870 by Photographer Muntasir Mhamud

In 1666 AD, French tourist Tavernier arrived in Dhaka. Then he enjoyed the beauty of this Pagla Bridge. He has described this Pagla Bridge in his writings. He described the bridge as 'a beautiful brick bridge'. According to his description, there is another river-mad in the Bhati. There is a beautiful Bridge on the river, which was built by Mir Joomla. He further wrote that there were several towers on both sides of the river, where the severed heads of the robbers were hung.



Figure 18: (a) Wreckage Pagla Bridge at present time, (b) Parts of Pagla Bridge

In 1824, Lord Bishop Heber of Calcutta came to see the beauty of the Pagla Bridge. In those days, the river Pagla was almost dead. The Pagla Bridge was then reduced to rubble.



Figure 19: Picture of Pagla Bridge ruins (early 1990's) Prof Muntasir Mamun

Structural components of Pagla Bridge

A lot of ideas about "Pagla Bridge" can be found in the paintings by Charles Dolly. According to his photo description -

- Interesting Tudor is an excellent example of Gothic architecture.
- This Pagla Bridge consisting of three open arches. Arched on both sides.
- There was an observation tower on that Pagla Bridge. It had an 'observation tower' to keep an eye on.
- About half of the mad bridge was broken. It is as if this bridge is collapsing in a big storm or a cyclone. The top of the observation tower was similar to the dome shape.
- The use of much more arcline
- Many use more decorative styles
- Remains like minarets can be seen
- Each corner had four octagonal minarets. These minarets are hollow in shape.
- The use of re-pillars of space along the railing is on two sides of the bridge

- Use of small domes at the head of the pillars



Figure 20: Paintings of Pagla Bridge by Charles Doyle E

Atkinson said, 'There is a kind of light-shadow game in the Bridge area. In the white houses of the Europeans in distant Dhaka, the radiance of the sun shines brightly, and the shadows of the Bridge and the land near the Bridge combine to create a strangely emotional scene.'

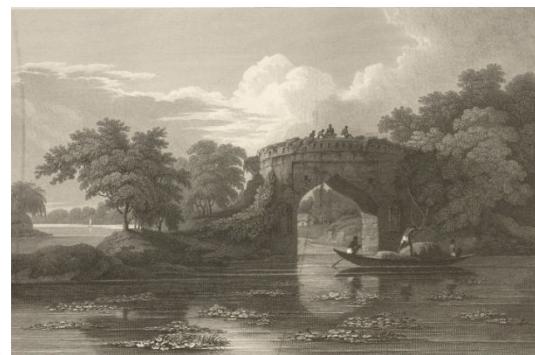


Figure 21: Pagla Bridge with part of Dhaka in the final distance: Sir Charles Doyle E

2.5.11 Khaja Amber Bridge

The existence of "Khwaja Amber Bridge" can be seen on the map of ancient "Rennell". According to the map, this bridge was once located in the middle of Dhaka. This does not survive at present. The Khwaja Number Bridge is believed to have been built in 1680 AD.

2.5.12 Tatibazar Bridge



There is not much idea about Tantibazar Bridge.

Figure 22: Mughal Bridge near Tanti Bazar (1): According to a drawing by Charles Doyle E. The bridge is beautifully painted by artist Charles Dolly.

- A large arched arch can be seen. The bridge was supposed to consist of four arches.
- Small holes in the railing can be seen on the surface of the bridge.

2.5.13 Tongi Bridge, Tongi-Abdullahpur Road

According to Rennell's map, the Tongi Bridge was built over the Tongi Canal. History the famous "Tarikh-i-Dhaka" mentions this Tongi canal and bridge.

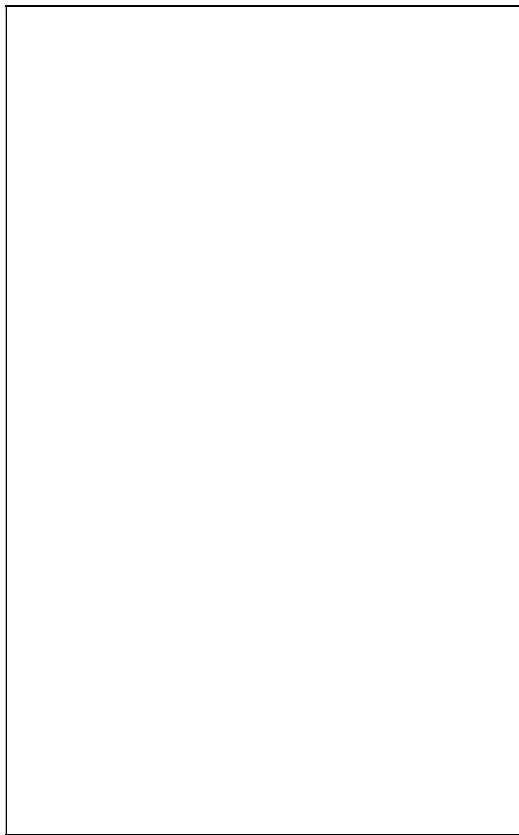


Figure 23: Snap from the Book Tarikh E Dhaka



Figure 24: Remains of the Tongi Bridge (1825): According to ancient paintings by Charles Doyle

Similar to the Indian Mughal Bridge installation, the bridge has watch towers on both sides. These watch towers are long dome-shaped.

2.5.14 Taltala Bridge

There is not much information about the Taltala Bridge, another spectacular installation of the Mughal period. According to the idea, "The style of construction of this Mughal-era bridge is similar to that of the Mir Kadim Bridge. The famous historical book "Tarikh-e-Dhaka" mentioned in 24th paragraph of the history of the Taltala Bridge.

[Page: The first part of the history of Dhaka.djvu/1

Subject: 13, Chalk Bazaar; cannon and mosque in the middle, 14 Big Katra (taken from Doyeli's picture), 15 Lalbagh Mosque, 16 Seven Dome Mosque, 17 Pusta Palace (taken from Doyeli's picture), 18 Tomb of Ghiyasuddin, 19 Shiva Temple in Laskardighi, 20 Monastery of Rajabari, 21 Baba Adam Mosque, 22 The tower of Srinagar, 23 Idrakpur Fort, 24 Taltala pool, 25. Tongi Pool, 26. Paglapool, 27 Dhakeswari temple, 28 Dhakeswari Bari

Math Chatushtay, 29.Monastery of Ramna, 30 Siddheswari Math, 31. Malibagh akhra, 32 Yashomadhab of Dhamrai, 33 Temple of Mastara,34 Husni building ,35. Kadam Rasul.

Architectural features of Taltola Bridge

- The Taltala Bridge has three arches
- The arches are circular in shape
- The central arch is relatively large
- The span of the central arch is much larger
- The two surrounding arches are small in size
- The span of the surrounding arch is much smaller

There is no trace of this bridge at present time.

2.5.15 Mir Kadim's Bridge

Mirkadim Bridge is another spectacular structure of the Mughal period that has survived for a long time. The construction of Mirkadim Bridge took place between 1757 and 180. Its creator is Mir Jumla.



Figure 25: Mirkadim Bridge side view

Naming of Mir Kadim Bridge

The local name of the bridge at Mirkadim is "Pulghata Bridge". Locals know this bridge as Pulghata Bridge.



Figure 26: (a) View from the side of Mirkadim Bridge, (b) View from middle of Mirkadim Bridge

Common Myths or Rumors:

There is a lot of public opinion about this bridge.

- Local Mirkadim residents believe that this famous bridge was built by Jinn - birds.
- Many religious and superstitious people believe that this bridge cannot be built for any human being. This bridge was built in secret. This bridge was built by one Baisakhi Purnima night. The invisible being built this bridge with his own hands.
- Again, give some comments - this is the work of demons and demons. This bridge is a night crop made by their hand.

Everything that is common about the Mirkadim Bridge is nothing but a story. Nevertheless, the myth or the story of the life lived forever.

History of Mirkadim Bridge

During the Mughal period, many bridges were built in Bengal by the Mughals. There is no history of bridge construction in Bengal during the Sultanate period. The Mirkadim Bridge is also a notable example.

During the reign of Mughal Emperor Aurangzeb, Subaddar Mir Jumla built two bridges to strengthen the communication system from Idrakpur fort to Musa Khan's fort at Dohar. One is the "Mirkadim Bridge", the other is the "Talta Bridge".

During the Second World War, the "Taltala Bridge" was blown up by an English bomb. The bridge was immediately wiped out. All that remains and stories are all found in old documents, books and history. The story of this bridge is also known through the mouths of the people.

The only surviving bridge is Mirkadim. The Mirkadim Bridge is still intact.

Structural features of the Mirkadim Bridge

- "Mirkadim Bridge" looks exactly like "Panam Bridge" located in Sonargaon. However, this bridge with a slope is much longer in length than the Panam Bridge.
- The bridge of Mirkadim is 182 feet long with a slope and 16 feet 6 inches wide.
- The height of this bridge is about 30 feet from the surface of the water.
- The entire construction of this brick bridge is to be covered with brick pallets. There is no Kasti stone in this bridge.
- The bridge is very thick. And the thickness is 4 feet 5 inches.
- The bridge is tri-arched. The central arch is relatively large in size. Watercrafts still pass through this arch.
- During the rainy season, the water below the bridge is filled to the brim. In the dry season, the lower part of the bridge becomes dry and almost dead.

2.5.16 Hatirpul Bridge, Brahmanbaria



Figure 27: View of Hatirpul Bridge

Naming of Hatirpul Bridge

Hatirpul Bridge is also known as "Bariura Bridge", the locals also call this bridge Sarail Bridge. Whose other name is "Hatirpul Bridge".

The Dewans had many elephants. The elephants rode from one place to another. The Dewans used to travel on this bridge on the backs of elephants. Elephants would relax when they came to the bridge. The elephant sat at the base of the Bridge before resting on a half-curved bridge.

The history of this bridge or Bridge is centered on the elephant, hence the name of this bridge - the elephant Bridge.

Location of Hatirpul Bridge

Barilla Bazaar is in Sareil upazila on Comilla-Sylhet highway. The bridge is located on the left side of the road, 100 gauges east of this house.

History of Hatirpul Bridge

Majlis Shahbaz, the second Dewan of the Diwan family of Sarail village. He founded the village Shahbazpur in his own name. He did a lot of developmental and social work in this village. Dewan Shahbaz established a kanchari in this village. He built a bridge from Shahbazpur to another village Kuttpara. Locally this bridge is also known as Jangal. Later, in 1850, Nasir Mahmud, the fourth Dewan of Sarail, the grandson of Dewan Majlish Shahbaz and son of Dewan Nur Mohammad, built a palace, hammamkhana and fort at Harashpur and extended the road from Shahbazpur to Harashpur to facilitate travel. The elephant was built. The boat moves under the Bridge of elephants. In the late afternoon, the beauty population of the area and enthusiastic visitors from the surrounding area also spend some time in the afternoon.



Figure 28: View of Hatirpul Bridge

Architectural style of Hatirpul Bridge

- Hatirpul Bridge Bridge is built of brick.
- Black basalt stone does not exist in it.

- The Hatirpul Bridge is broken in such a way that it is impossible to know its original width or length.
- This bridge with only one arch.
- The outer part of the arch is enriched with a single panel.

Hatirpul Bridge decoration-

Since the Hatirpul Bridge was a Mughal-era installation, it had all the aesthetic ornaments of the bridge. The decorative style of this bridge, which was eroded in the whirl Bridge of time, has become very pale today. At present the Hatirpul Bridge is affiliated to the Department of Archeology, Bangladesh. The Department of Archeology, Bangladesh has renovated and preserved the bridge. Although past nomads and tyrants no longer exist.

How Hatharipul Bridge discovered

From any part of Bangladesh, the World Road turns in Brahmanbaria district can be directly joined by car or bus.

III. REAL OBSERVATION AND VISIONARY MENTALITY OF ANCIENT BRIDGES

In Bengal during the Mughal period and many a number of visionary bridges were built in this Bengal. If you look at ancient documents, books and maps, you will find a lot of information about the construction of these bridges. All these documents, books, maps are indispensable documents so that the information of this ancient settlement is in store.

The actual observation of some bridge installations has been done to find out the exact identity of the bridge. Again, the exact location of many bridges was not found and the location of the bridge did not match.

In this case, the opposite has happened. It can be seen that there is a bridge. Everyone knows, but he has no information in any document. In that case, many of these installations have survived or are being destroyed behind the scenes.

With the overall situation in mind, the situations that are in front of the eyes are -

3.1 Architecture has no values:

Each bridge installation is an archeological resource. Whether the bridge structures are enlisted or not, make them a reality and a state of disrepair. People are less responsible for them. He treats them in any way he can. This bridge is used by anyone to dry or wet mesh. Nowadays cows are also tied to the mad bridge. Again, someone's mind wanted to carefully take a few pieces of brick. People cannot give their own values to this archetype. Each bridge is an architectural asset. Whether the bridge structures are enlisted or not, make them a reality and a state of disrepair. Except for two bridges, why are not the elusive ones today?

3.2 Destruction of the architectural style of ancient bridge

One was a bridge, one was an art. Each bridge was architecturally full. Everyday use of people, traffic, weather and climatic factors, human negligence above all has led to deviations in the architectural style of every bridge installation. Most of the bridges are in a fragile state. The most dilapidated bridges do not survive at all. For example, Khanja Amber Bridge, Tongi Bridge, Tantibazar Bridge etc. It was found that some of these bridges had broken spans, some of which had only one arch left. Once again, the mad bridge has reached the brink of destruction. People have broken old bridges to make new bridges suitable for fever, for example, the Tribeni Bridge, the Castle Bridge etc. There seems to be a possibility of something like this happening in the brick Bridge of Chapatali. Who will look back at them with time? People understand only their own benefit. Who knows how to give historical value. Natural disasters, such as earthquakes and damage have caused many old bridges. The bridge construction is architecturally complete, but there is no specimen of the survivor, except for a broken section. The brick Bridge of Chapatali The entire railing of this bridge, the torrent is broken. The broken part is still in the canal water. Again, cracks are high in some parts of the Panam Bridge. Pithawali's Bridge is on the verge of destruction, waiting for the last day. The hadiths of many bridges do not match. Why? Hadith does not match. How to find the Hadith if it is broken or not sustained?

3.3 Structure of the ancient bridge

Although this ancient structure has changed slightly in terms of architectural style, there is a considerable lack of structural structure. Every piece of brick can be seen or counted when the plaster or lining is lifted. On one side the bridges have faded. Again there is a crack in the middle of the bridge installation somewhere. The surface of the bridge or part of the floor is broken. The main structural elements: bricks. That brick is going to be wasted day by day.

3.4 Unprotected Mughal period bridge installation and decoration style

Most of the bridges were built during the Mughal period. Such as: Pulghata Bridge, Panam Bridge, Pagla Bridge, and Chapatli Brick Bridge etc. An important feature of the Mughal period is that the level of decoration is much higher in the installations of this period. The lack of decoration in this ancient bridge installation has taken a definite shape. The bridge of the Mughal period is in fact much more ornamented like a Mughal fort, a fort or a mosque. Rather, the presence of a few panels and Marlon can be seen instead. These bridges have been renovated many times over time, and the Mughal decoration and aesthetics have been abolished as a result of these reforms. Obvious

3.5 Alignment connection of Mughal Bridges

The bridges which were built in Mughal period all have some similarities into their structural as well as architectural features. There is another important things is geographical alignment of the bridges. As the location of Bengal is in the Tropic Cancer so the water flow of this region is south to north. That is why most of the bridges built in Mughal period are directed to the East-West. This alignment helps the water flow smoothly without any destruction.

3.6 Archaeological Preservation

These installations are so endangered today due to lack of archaeological conservation, preservation and necessary restoration. There have been renovations somewhere but there is no sign of the original decoration. So what does this renovation mean? As much as it is broken later, what is the success of taking care of the broken part? Or is it necessary to repair and rebuild the place? The bridge installation is usable again.

3.7 Man-made bridge damage

The construction of these bridges is worse due to man-made destruction than to the destruction of nature. People still use these bridges. The level of human misconduct towards them is higher than using them fairly.

On these bridges all kinds of work are done on drying straw, drying cow dung, drying wet nets, drying cloth, etc. Somewhere, these bridges are all grazing lands or garbage dumps. Dustbin's garbage dumps in the site and the top of the bridges. Durant, jumping from the bridge over the boy's lap, caused damage to the bridge just as the railing destroyed the railings. There are many parts where the bridges have cracked. Green grass, moss, capsule and algae were born in those places due to lack of need and repair. The walls of the bridge go ink with ink, isn't it immoral? The ancient architectural style lacks a clear architectural style. Installations that survive with full material are rare.

3.8 Lack of required and specific documentation

Documentation of each traditional installation is essential. Except for two bridges, no one knows or knows. The reason behind this is lack of precise information, data, and guidelines. Yet we have no obligation to these resources of our own country. Moreover, the tradition of the people is less and less. These are things to think about with passion and not with emotion. There are still historical installations that do not have precise documentation. They are identified by looking at all the paintings or pictures that are still famous because there is no documentation.

IV. CONCLUSIONS

Most of the ancient bridge conditions can be seen with one's own eyes. Everyone just watches, some regret it. Some people try to move each other's tone by aiming at each other. Again, some show extreme anger. Again, some people's lives are cut short by taking pictures of these installations. They reveal their pictures to the public. It is also written in newspapers. Research is also out. A response can be found through research through domestic and international. People can be attracted to the installations. There may be a hint in the media. But, is there really anything to do with these installations? Can they survive? Where fragmented parts like the ruins of Pagla Bridge the Mughal-era installations have fallen to the ground. When all is over, one regrets dying? Going to the department shows anger. He regrets posting on social media such as Facebook, Twitter and posting pictures of himself. And when will people shake the tone of them, still out of enlisting of all deployment departments. At the end, it does not make sense to haggle over an establishment that is owned by another or later. Who knows, these structures will survive in the end? Or they have no right to keep pace with the times. When finished, everyone will tell. "Once Upon A Time"

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